

The Cochrane Collaboration 20 years in

Jeremy Grimshaw MBChB PhD, Jonathan Craig MBChB PhD, David Tovey MBChB, Mark Wilson MPhil MM

See related essay by Cassels at www.cmaj.ca/lookup/doi/10.1503/cmaj.131213

In 1993, evidence-informed health care was in its infancy. The term “evidence-based medicine” had recently been coined at McMaster University, the Institute of Medicine had published an influential report on developing clinical guidelines, and about 500 systematic reviews were indexed in MEDLINE annually. Against this backdrop, 77 people from 11 countries attended the first Cochrane Colloquium in Oxford and agreed to establish The Cochrane Collaboration, an independent, not-for-profit global organization. Its goal is to help individuals make well-informed decisions about health care by preparing, maintaining and promoting the accessibility of systematic reviews of the effects of health care interventions. The 21st Cochrane Colloquium begins on Sept. 19 in Québec City, Quebec, and will celebrate 20 years of the collaboration. Here we discuss the collaboration’s progress and identify key challenges and opportunities for its future.

The collaboration currently involves more than 31 000 contributors (including consumers, health care professionals, policy-makers and scientists) from over 120 countries, making it the largest single producer of systematic reviews of the effects of health care interventions (and increasingly reviews of other types of questions, such as the accuracy of diagnostic tests). Review authors work with 53 Cochrane Review Groups that provide scientific and editorial support throughout the process. Together, they have produced over 5000 (and have more than 2000 ongoing) systematic reviews published in The Cochrane Library. In particular, through extensive electronic hand-searching, they have identified over 700 000 randomized trials. The abstracts and plain-language summaries of all Cochrane systematic reviews are available free of charge without subscription, and the full-text version of The Cochrane Library is available to about half of the world’s population through regionally, nationally or internationally funded licences. Free one-click access is available to people in countries classified as low or low–middle income by the World Bank. In 2012, there were over 5.5 million downloads of full-

text articles from The Cochrane Library by people in over 200 countries.

The Cochrane Collaboration has established methodologic guidance for conducting high-quality reviews,¹ and it provides free access to RevMan, its review-production software, to its contributors. The collaboration is committed to continual improvement of its methods and, in recent years, has developed new approaches for assessing the risk of bias in studies included in systematic reviews² and presenting summaries of findings.³ Cochrane reviews have often highlighted methodologic problems with the conduct and reporting of primary studies and reviews (e.g., problems with randomization and concealment of allocation, publication and selective outcome reporting, sponsor bias). Repeated studies have shown that Cochrane reviews are generally of higher quality than non-Cochrane reviews. For example, Cochrane reviews are more likely than non-Cochrane reviews to include extensive searches, consider unpublished studies, report more outcomes (including harms) and assess publication bias.⁴ In addition, Cochrane reviews are more likely to be regularly updated.⁴

As part of its support activities, The Cochrane Collaboration routinely provides face-to-face training workshops and recently produced a suite of online modules that cover all aspects of conducting reviews for authors of Cochrane reviews at both introductory and advanced levels. In 2011, the 32 Cochrane Centres and branches around the world provided over 135 training events in local languages to a broad range of

Competing interests:

Jeremy Grimshaw is co-chair of the Cochrane Collaboration Steering Group, director of Cochrane Canada, and coordinating editor of the Cochrane Effective Practice and Organisation of Care group. Jonathan Craig is co-chair for the Cochrane Collaboration. David Tovey and Mark Wilson are full-time employees of The Cochrane Collaboration.

This article was solicited and has not been peer reviewed.

Correspondence to:

Jeremy Grimshaw,
jgrimshaw@ohri.ca

CMAJ 2013, DOI:10.1503/cmaj.131251

KEY POINTS

- The Cochrane Collaboration celebrates its 20th anniversary in 2013.
- The collaboration is the largest single producer of systematic reviews of the effects of health care interventions, with more than 5000 reviews published to date in the Cochrane Library.
- The collaboration’s commitment to methodologic rigour and its guidance and tools have led to improved reporting of evidence and more engaged health care consumers.
- Cochrane’s ambition is to make all reviews open access in the future; reviews are currently available free of charge to people in low- and middle-income countries and in countries with national licenses.

All editorial matter in *CMAJ* represents the opinions of the authors and not necessarily those of the Canadian Medical Association.

people who typically are not undertaking formal educational activities; almost all of these events were provided free of charge or on a cost-recovery basis.

The Cochrane Collaboration has been a major advocate for evidence-informed decision-making. Cochrane reviews have been used to identify priorities for future research⁵ and to identify ineffective interventions for disinvestment by health care systems.⁶ Cochrane reviews are commonly used as the “evidence engine” in a variety of knowledge resources for consumers, professionals and policy-makers. For example, the Reproductive Health Library is an electronic collection sponsored by the World Health Organization that contains Cochrane reviews, guidelines and commentaries; these can be accessed freely on the Internet by people from low- and middle-income countries.⁷ Cochrane reviews are used by many guideline developers and health technology agencies. The Cochrane Collaboration has also worked hard to engage consumers to ensure the relevance of its work and to support their health care decisions.

Given its funding model, these achievements are remarkable. The Cochrane Collaboration does not accept funding from commercial sources because of the consistent evidence of potential bias in industry-sponsored reviews.⁸ The goodwill of contributors (many of whom do not receive direct funding for Cochrane-related work) is the main reason that the Cochrane Collaboration has made such rapid progress over the last 2 decades. This has been possible because its central infrastructure is funded through royalties from The Cochrane Library and its working groups are largely publicly funded.

However, much remains to be done in the face of new opportunities and challenges in an evolving landscape. Currently, over 4000 systematic reviews (including over 700 Cochrane reviews) and other knowledge products are published each year.⁹ Given this, is there an ongoing need for The Cochrane Collaboration and its work? We believe that there is. In 2003, Mallett and Clarke estimated that 10 000 reviews were needed to cover health care;¹⁰ thus, at best, the Cochrane Collaboration is just over halfway through its task (although as medical knowledge and capabilities expand, we expect that the target will also increase).

Cochrane is committed to making its evidence more accessible and usable for everyone everywhere. Cochrane content is increasingly available

in languages other than English: for example, the Cochrane Summaries website provides a searchable interface and abstracts and plain language summaries in 6 languages (including French). Similarly, Cochrane is embracing both the opportunity and challenge of making its library open access. This year, Cochrane and its publishing partner, John Wiley & Sons, announced new, wider open-access solutions for The Cochrane Library, with more promised in the next few years, despite the financial uncertainties associated with moving from a licensing-based model to an open-access alternative. The Cochrane Collaboration has achieved many things in its first 2 decades. The original vision for a comprehensive up-to-date library of high-quality systematic reviews remains compelling. We are confident that Cochrane’s greatest effects on health care decision-making are still to come.

References

1. Higgins JPT, Green S. *Cochrane handbook for systematic reviews of interventions*. Chichester (UK): Wiley-Blackwell; 2008.
2. Higgins JP, Altman DG, Gotzsche PC, et al. The Cochrane Collaboration’s tool for assessing risk of bias in randomised trials. *BMJ* 2011;343:d5928.
3. Schunemann HJ, Oxman AD, Higgins JPT, et al. Presenting results and “summary of findings” tables. In: Higgins JPT, Green S, editors. *Cochrane handbook for systematic reviews of interventions*. Chichester (UK): Wiley-Blackwell; 2008:335-58.
4. Moher D, Tetzlaff J, Tricco AC, et al. Epidemiology and reporting characteristics of systematic reviews. *PLoS Med* 2007;4:e78.
5. Clarke L, Clarke M, Clarke T. How useful are Cochrane reviews in identifying research needs? *J Health Serv Res Policy* 2007; 12:101-3.
6. Garner S, Docherty M, Somner J, et al. Reducing ineffective practice: challenges in identifying low-value health care using Cochrane systematic reviews. *J Health Serv Res Policy* 2013;18: 6-12.
7. The WHO Reproductive Health Library. Geneva (Switzerland): World Health Organization; 2010. Available: <http://apps.who.int/rhl/en/>.
8. Yank V, Rennie D, Bero LA. Financial ties and concordance between results and conclusions in meta-analyses: retrospective cohort study. *BMJ* 2007;335:1202-5.
9. Bastian H, Glasziou P, Chalmers I. Seventy-five trials and eleven systematic reviews a day: How will we ever keep up? *PLoS Med* 2010;7:e1000326.
10. Mallett S, Clarke M. How many Cochrane reviews are needed to cover existing evidence on the effects of health care interventions? *ACP J Club* 2003;139:A11.

Affiliations: Clinical Epidemiology Program (Grimshaw), Ottawa Health Research Institute; University of Sydney (Craig), Sydney, Australia; the Central Editorial Unit (Tovey) and the Central Operations Unit (Wilson), The Cochrane Collaboration, Oxford, UK.

Contributors: All of the authors contributed to the conception and design of the manuscript and revised the manuscript for important intellectual content. All of the authors approved the final version submitted for publication.

Funding: Cochrane Canada receives funding from the Canadian Institutes of Health Research.